

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	2	samuel near amin.in.	US-PGPUB; USPAT	OR	ON	2007/03/19 08:52
S2	23	brian near crites.in.	US-PGPUB; USPAT	OR	ON	2007/03/19 09:51
S3	39	kirt near debique.in.	US-PGPUB; USPAT	OR	ON	2007/03/19 08:58
S4	22	sohail near3 mohammed.in.	US-PGPUB; USPAT	OR	ON	2007/03/19 08:59
S5	4	niranjan near nayak.in.	US-PGPUB; USPAT	OR	ON	2007/03/19 09:01
S6	74	eric near rudolph.in.	US-PGPUB; USPAT	OR	ON	2007/03/19 09:04
S7	15	mei near wilson.in.	US-PGPUB; USPAT	OR	ON	2007/03/19 09:04
S8	15746	microsoft.as.	US-PGPUB; USPAT	OR	ON	2007/03/19 09:51
S9	36	S8 and (topology and media and node).clm.	US-PGPUB; USPAT	OR	ON	2007/03/19 09:52
S11	13	("5539886" "5604843" "5765011" "6014706" "6044408" "6192354" "6243753" "6263486" "6308216" "6546426" "6209041" "6594773" "6658477").pn.	US-PGPUB; USPAT	OR	ON	2007/03/19 10:17
S12	7	("6625643" "6618752" "5887139" "6691312" "6038625" "6347079" "20030101253").pn.	US-PGPUB; USPAT	OR	ON	2007/03/19 10:23
S13	1	"20020158897".pn.	US-PGPUB; USPAT	OR	ON	2007/03/19 10:23
S14	2	"5461624".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/19 10:35
S15	220	partial near3 topology	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/19 10:42

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S16	160	S15 and node	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/19 10:43
S17	44	S16 and cache	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/19 10:45
S18	39	S17 and (@pd<"20040308" or @ad<"20040308" or @prad<"20040308" or @riad<"20040308")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/20 13:01
S22	3	S11 and topology	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/19 10:51
S23	7	S12 and topology	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/19 10:51
S24	260	(partial or incomplete) near3 topology	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/19 11:04
S25	193	S24 and node	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/19 11:04
S26	10	S25 and decoder	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/19 11:10

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S27	8	S25 and (topology adj loader)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/19 11:10
S28	91	S25 and ((full or complete or resolved) near3 topology)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/19 11:11
S29	76	S28 and (@pd<"20040308" or @ad<"20040308" or @prad<"20040308" or @rlad<"20040308")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/19 11:11
S30	11	(US-20030101253-\$ or US-20020158897-\$ or US-20040255184-\$ or US-20030204786-\$ or US-20030204509-\$ or US-20030204273-\$).did. or (US-6185612-\$ or US-7139925-\$ or US-7035858-\$ or US-7024483-\$ or US-6178172-\$).did.	US-PGPUB; USPAT	OR	ON	2007/03/19 11:20
S31	9	S30 and media	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/19 11:20
S32	950	717/120-123.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/19 11:30
S33	55	S32 and topology	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/19 11:30
S34	4	("6249810" "6023730" "5884031" "5461624").pn.	US-PGPUB; USPAT	OR	ON	2007/03/20 07:20

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S36	11	(US-20030101253-\$ or US-20020158897-\$ or US-20040255184-\$ or US-20030204786-\$ or US-20030204509-\$ or US-20030204273-\$).did. or (US-6185612-\$ or US-7139925-\$ or US-7035858-\$ or US-7024483-\$ or US-6178172-\$).did.	US-PGPUB; USPAT	OR	ON	2007/03/20 10:18
S38	1226	clon\$4 with node	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/20 10:20
S39	229	S38 and topology	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/20 10:20
S43	8	S39 and ("717".clas. or "709".clas.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/20 10:31
S44	2263	topology with (argument or parameter)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/20 10:31

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S45	297	S44 and ("717".clas. or "709".clas.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/20 10:31
S47	228	S45 and node	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/20 10:32
S48	123	topology with (retriev\$4 or receiv\$4) with (parameter or argument)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/20 13:01
S49	75	S48 and node	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/20 13:01
S50	64	S49 and (@pd<"20040308" or @ad<"20040308" or @prad<"20040308" or @rlad<"20040308")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/20 13:01



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1 [Making transmission schedules immune to topology changes in multi-hop packet radio networks](#)

Imrich Chlamtac, András Faragó

February 1994 **IEEE/ACM Transactions on Networking (TON)**, Volume 2 Issue 1

Publisher: IEEE Press

Full text available: [pdf\(982.02 KB\)](#)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#), [review](#)

2 [An architecture for mobile radio networks with dynamically changing topology using virtual subnets](#)

Jacob Sharony

August 1996 **Mobile Networks and Applications**, Volume 1 Issue 1

Publisher: Kluwer Academic Publishers

Full text available: [pdf\(375.17 KB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

An architecture adaptable to dynamic topology changes in multi-hop mobile radio networks is described. The architecture partitions a mobile network into logically independent subnetworks. Network nodes are members of physical and virtual subnets and may change their affiliation with these subnets due to their mobility. Each node is allocated an address based on its current subnet affiliation. We observe—especially in large networks with random topology—that partitioning of the ...

3 [Virtual-topology adaptation for WDM mesh networks under dynamic traffic](#)

Aysegül Gençata, Biswanath Mukherjee

April 2003 **IEEE/ACM Transactions on Networking (TON)**, Volume 11 Issue 2

Publisher: IEEE Press

Full text available: [pdf\(585.44 KB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We present a new approach to the virtual-topology reconfiguration problem for a wavelength-division-multiplexing-based optical wide-area mesh network under dynamic traffic demand. By utilizing the measured Internet backbone traffic characteristics, we propose an adaptation mechanism to follow the changes in traffic without *a priori* knowledge of the future traffic pattern. Our work differs from most previous studies on this subject which redesign the virtual topology according to an expect ...

**Keywords:** WDM, dynamic traffic, mesh network, mixed-integer linear program (MILP), optical network, virtual-topology reconfiguration

#### 4 The Totem multiple-ring ordering and topology maintenance protocol



D. A. Agarwal, L. E. Moser, P. M. Melliar-Smith, R. K. Budhia  
May 1998 **ACM Transactions on Computer Systems (TOCS)**, Volume 16 Issue 2

**Publisher:** ACM Press

Full text available: pdf(367.16 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

The Totem multiple-ring protocol provides reliable totally ordered delivery of messages across multiple local-area networks interconnected by gateways. This consistent message order is maintained in the presence of network partitioning and remerging, and of processor failure and recovery. The protocol provides accurate topology change information as part of the global total order of messages. It addresses the issue of scalability and achieves a latency that increases logarithmically with ...

**Keywords:** Lamport timestamp, network partitioning, reliable delivery, topology maintenance, total ordering, virtual synchrony

#### 5 Self-stabilizing topology maintenance protocols for high-speed networks

Hosame Abu-Amara, Brian A. Coan, Shlomi Dolev, Arkady Kanevsky, Jennifer L. Welch  
December 1996 **IEEE/ACM Transactions on Networking (TON)**, Volume 4 Issue 6

**Publisher:** IEEE Press

Full text available: pdf(1.30 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

#### 6 Modern techniques for implicit modeling: Guaranteeing the topology of an implicit surface polygonization for interactive modeling



Barton T. Stander, John C. Hart  
July 2005 **ACM SIGGRAPH 2005 Courses SIGGRAPH '05**

**Publisher:** ACM Press

Full text available: pdf(275.79 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Morse theory shows how the topology of an implicit surface is affected by its function's critical points, whereas catastrophe theory shows how these critical points behave as the function's parameters change. Interval analysis finds the critical points, and they can also be tracked efficiently during parameter changes. Changes in the function value at these critical points cause changes in the topology. Techniques for modifying the polygonization to accommodate such changes in topology are given ...

**Keywords:** catastrophe theory, critical points, implicit surfaces, interactive modeling, interval analysis, morse theory, particle systems, polygonization, topology

#### 7 Session 8: IGP and topology: A case study of OSPF behavior in a large enterprise network



Aman Shaikh, Chris Isett, Albert Greenberg, Matthew Roughan, Joel Gottlieb  
November 2002 **Proceedings of the 2nd ACM SIGCOMM Workshop on Internet measurement IMW '02**

**Publisher:** ACM Press

Full text available: pdf(1.34 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Open Shortest Path First (OSPF) is widely deployed in IP networks to manage intra-domain routing. OSPF is a link-state protocol, in which routers reliably flood "Link State Advertisements" (LSAs), enabling each to build a consistent, global view of the routing topology. Reliable performance hinges on routing stability, yet the behavior of large operational OSPF networks is not well understood. In this paper, we provide a case study on the characteristics and dynamics of LSA traffic for a large e ...

**Keywords:** LSA traffic, OSPF, enterprise networks, routing

## 8 Guaranteeing the topology of an implicit surface polygonization for interactive modeling



Barton T. Stander, John C. Hart

August 1997 **Proceedings of the 24th annual conference on Computer graphics and interactive techniques SIGGRAPH '97**

**Publisher:** ACM Press/Addison-Wesley Publishing Co.

Full text available: [pdf\(372.49 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** Morse theory, catastrophe theory, critical points, implicit surfaces, interactive modeling, interval analysis, particle systems, polygonization, topology

## 9 A correctness proof of a topology information maintenance protocol for a distributed computer network



William D. Tajibnapis

July 1977 **Communications of the ACM**, Volume 20 Issue 7

**Publisher:** ACM Press

Full text available: [pdf\(923.88 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

In order for the nodes of a distributed computer network to communicate, each node must have information about the network's topology. Since nodes and links sometimes crash, a scheme is needed to update this information. One of the major constraints on such a topology information scheme is that it may not involve a central controller. The Topology Information Protocol that was implemented on the MERIT Computer Network is presented and explained; this protocol is quite general and could be i ...

**Keywords:** computer networks, correctness proofs, distributed computer network, distributed control, distributed operating system, network topology, routing problem in networks, store and forward message switching, store and forward packet switching, traffic control

## 10 Topological modeling: Controlled-topology filtering



Yotam I. Gingold, Denis Zorin

June 2006 **Proceedings of the 2006 ACM symposium on Solid and physical modeling SPM '06**

**Publisher:** ACM Press

Full text available: [pdf\(1.52 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Many applications require the extraction of isolines and isosurfaces from scalar functions defined on regular grids. These scalar functions may have many different origins: from MRI and CT scan data to terrain data or results of a simulation. As a result of noise and other artifacts, curves and surfaces obtained by standard extraction algorithms often suffer from topological irregularities and geometric noise. While it is possible to remove topological and geometric noise as a post-processing step ...

**Keywords:** computational topology, critical points, filtering, isosurfaces

## 11 Group communication in multichannel networks with staircase interconnection topologies



P. K. McKinley, J. W. S. Liu

August 1989 **ACM SIGCOMM Computer Communication Review, Symposium proceedings on Communications architectures & protocols SIGCOMM '89**, Volume 19 Issue 4

**Publisher:** ACM Press



Full text available:  pdf(1.25 MB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Recently, multichannel networks composed of several parallel, medium-speed channels multiplexed on a single high-speed medium have been proposed as a practical way to harness the high bandwidths of optical fibers. In order to limit the cost of network interfaces, a partially-connected multichannel network allows each node access to only a proper subset of the channels, its channel set. Staircase interconnection topologies constitute a family of partially-connected multichannel networks in w ...

## 12 Topology & MAC: Topology management in ad hoc networks



Lichun Bao, J. J. Garcia-Luna-Aceves

June 2003 **Proceedings of the 4th ACM international symposium on Mobile ad hoc networking & computing MobiHoc '03****Publisher:** ACM PressFull text available:  pdf(450.73 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The efficiency of a communication network depends not only on its control protocols, but also on its topology. We propose a distributed topology management algorithm that constructs and maintains a backbone topology based on a minimal dominating set (MDS) of the network. According to this algorithm, each node determines the membership in the MDS for itself and its one-hop neighbors based on two-hop neighbor information that is disseminated among neighboring nodes. The algorithm then ensures that ...

**Keywords:** ad hoc networks, connected dominating set, minimum dominating set

## 13 The design of a topology information maintenance scheme for a distributed computer network



William D. Tajibnapis

January 1974 **Proceedings of the 1974 annual conference ACM 74****Publisher:** ACM PressFull text available:  pdf(582.68 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In order for the nodes of a distributed computer network to communicate, each node must have information about the network's topology. Since nodes and links sometimes crash, a scheme is needed to update this information. One of the major constraints on such a scheme is that it may not involve a central controller. In this report a straightforward scheme involving adjacency matrices and a broadcast scheme are discussed and their inadequacies described. The NETCHANGE Protocol which ...

**Keywords:** Distributed computer network, Distributed control, Message switching, Routing problem in networks, Store-and-forward

## 14 Dual Contouring with Topology-Preserving Simplification Using Enhanced Cell Representation


Nan Zhang, Wei Hong, Arie Kaufman

October 2004 **Proceedings of the conference on Visualization '04 VIS '04****Publisher:** IEEE Computer SocietyFull text available:  pdf(588.62 KB)Additional Information: [full citation](#), [abstract](#), [citations](#)

We present a fast, topology-preserving approach for isosurface simplification. The underlying concept behind our approach is to preserve the disconnected surface components in cells during isosurface simplification. We represent isosurface components in a novel representation, called enhanced cell, where each surface component in a cell is represented by a vertex and its connectivity information. A topology-preserving vertex clustering algorithm is applied to build a vertex octree. An enhanced d ...

**Keywords:** isosurface simplification, isosurface extraction, topology preservation, vertex clustering

15 Peer-to-peer: On the topologies formed by selfish peers

 Thomas Moscibroda, Stefan Schmid, Roger Wattenhofer  
July 2006 **Proceedings of the twenty-fifth annual ACM symposium on Principles of distributed computing PODC '06**

**Publisher:** ACM Press

Full text available:  pdf(264.74 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Current peer-to-peer (P2P) systems often suffer from a large fraction of freeriders not contributing any resources to the network. Various mechanisms have been designed to overcome this problem. However, the selfish behavior of peers has aspects which go beyond resource sharing. This paper studies the effects on the topology of a P2P network if peers selfishly select the peers to connect to. In our model, a peer exploits locality properties in order to minimize the latency (or response times) of ...

**Keywords:** NP-hardness, game theory, network creation

16 Wireless networks: Trajectory knowledge for improving topology control in mobile ad-hoc networks

 Jérôme Härri, Navid Nikaein, Christian Bonnet  
October 2005 **Proceedings of the 2005 ACM conference on Emerging network experiment and technology CoNEXT'05**


**Publisher:** ACM Press

Full text available:  pdf(486.97 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

While most topology control protocols only address limited network mobility, we propose in this paper a quasi-localized topology control algorithm that considers mobility predictions in order to construct and maintain a power efficient topology without relying on periodic beacons. Indeed, a node is capable of extracting linear trajectories of its neighboring nodes based on their positions and velocities. Based on such information, a node obtains a local prediction of neighborhood evolution and c ...

**Keywords:** localized topology control, power assignment, stochastic mobility prediction, trajectory, wireless ad hoc networks

17 Automatic update of replicated topology data bases


 Jeffrey M. Jaffe, Adrian Segall  
June 1984 **ACM SIGCOMM Computer Communication Review , Proceedings of the ACM SIGCOMM symposium on Communications architectures and protocols: tutorials & symposium SIGCOMM '84**, Volume 14 Issue 2

**Publisher:** ACM Press

Full text available:  pdf(605.08 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

In computer communication networks, routing is often accomplished by maintaining copies of the network topology and dynamic performance characteristics in various network nodes. The present paper describes an algorithm that allows complete flexibility in the placement of the topology information. In particular, we assume that an arbitrary subset of network nodes are capable of maintaining the topology. In this environment, protocols are defined to allow automatic updates to flow between the ...

18 Dynamic topology adaptation of virtual networks of virtual machines

 Ananth I. Sundararaj, Ashish Gupta, Peter A. Dinda  
October 2004 **Proceedings of the 7th workshop on Workshop on languages, compilers, and run-time support for scalable systems LCR '04**

**Publisher:** ACM Press

Full text available:  pdf(288.31 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)


Virtual machine grid computing greatly simplifies the use of widespread computing resources by lowering the level of abstraction, benefiting both resource providers and users. For the user, the Virtuoso middleware that we are developing closely emulates the existing process of buying, configuring and using machines. VNET, a component of Virtuoso, is a simple and efficient layer two virtual network tool that makes these virtual machines appear to be connected to the home network of the user, simp ...

#### 19 [A cone-based distributed topology-control algorithm for wireless multi-hop networks](#)

Li Li, Joseph Y. Halpern, Paramvir Bahl, Yi-Min Wang, Roger Wattenhofer

February 2005 **IEEE/ACM Transactions on Networking (TON)**, Volume 13 Issue 1

**Publisher:** IEEE Press

Full text available:  pdf(800.37 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The topology of a wireless multi-hop network can be controlled by varying the transmission power at each node. In this paper, we give a detailed analysis of a cone-based distributed topology-control (CBTC) algorithm. This algorithm does not assume that nodes have GPS information available; rather it depends only on directional information. Roughly speaking, the basic idea of the algorithm is that a node  $u$  transmits with the minimum power  $P_u$ , a required to ens ...

**Keywords:** connectivity, localized distributed algorithm, power management, topology control

#### 20 [Building an AS-topology model that captures route diversity](#)

 Wolfgang Mühlbauer, Anja Feldmann, Olaf Maennel, Matthew Roughan, Steve Uhlig  
August 2006 **ACM SIGCOMM Computer Communication Review , Proceedings of the 2006 conference on Applications, technologies, architectures, and protocols for computer communications SIGCOMM '06**, Volume 36 Issue 4

**Publisher:** ACM Press

Full text available:  pdf(529.61 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

An understanding of the topological structure of the Internet is needed for quite a number of networking tasks, e. g., making decisions about peering relationships, choice of upstream providers, inter-domain traffic engineering. One essential component of these tasks is the ability to predict routes in the Internet. However, the Internet is composed of a large number of independent autonomous systems (ASes) resulting in complex interactions, and until now no model of the Internet has succeeded i ...

**Keywords:** BGP, inter-domain routing, policies, route diversity, routing

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